EPA Summary Analysis of Wilma Subra Memorandum, December 18, 2021

Highlights:

- EPA reviewed the Wilma Subra report: *Mossville Toxics Air Emissions* from December 18, 2020 and the results of the LDEQ's air toxics samples for calendar year 2020.
- LDEQ operates two air toxics monitors in the Lake Charles area: one north of Sasol facility at 2646 John Stine Road and one west of Lott Chemical facility at Lighthouse Lane at Bayou d'Inde Road.
- Data review: While several air toxics constituents are found in all the samples collected during 2020, none of the constituents found in any sample exceeded the Louisiana Ambient Air Toxics Standard for that air toxic constituent.
- Nearby Sources: The monitors are located in areas that could be impacted from multiple industrial sources and from mobile sources from nearby, heavily travelled transportation routes.
- $PM_{2.5}$ concentrations: Particulate matter equal to or less than 2.5 micrometers in diameter ($PM_{2.5}$) concentrations in the Lake Charles area are below the National Ambient Air Quality Standard (NAAQS) values.

Data Review:

From Ms. Wilma Subra's report, she noted two monitors that collect air toxics data in the Mossville area: the Westlake Monitor (AQS No. 2201980008) at 2636 John Stine Road near Howton River Road, Westlake, LA and the Lighthouse Lane Monitor (AQS No. SPECIAL 3) at Lighthouse Lane at Bayou d'Inde Road, Lake Charles, LA. These monitors are operated by the Louisiana Department of Environmental Quality as part of its Toxic Air Monitoring System (TAMS).

Ms. Subra reported the number of occurrences (in percent occurrence) for air toxics in the 24-hour and strike samples[1]. When evaluating the concentrations, not occurrences, against the Louisiana Ambient Toxic Air Standard (LA standard), none of the air toxics were shown to exceed its LA standard.

In Ms. Subra's report, she cited exceedances of three air toxics[2] and indicated that there were specific exceedances based on the highest values reported in the 24-hour samples and the strike samples. EPA was unable to confirm the 2020 air toxic data from LDEQ's two monitors in the Lake Charles area exceeded the LA standard.

Nearby Sources:

There are approximately 9 facilities located within 1 mile of the Westlake Monitor and 4 facilities within 1 mile of the Lighthouse Lane Monitor that may contribute to the pollutant concentrations that are found in the samples.

[1] 24-hour samples are those collected over a 24-hour period using stainless steel canisters and collecting a certain volume of gas. A strike sample is an instantaneous sample, typically collecting a sample from 5 to 60 seconds.

[2] The three air toxics are: 1,2-dichloroethane; 1,3-butadiene; and 1,3-dichlorobenzene.

Reviewed by Frances Verhalen, April 14, 2021

In addition, the monitors are located near heavily trafficked roadways. Some common pollutants from these roadways may include benzene, 1,3-butadiene, ethylbenzene, acrolein, acetaldehyde, formaldehyde, naphthalene, polycyclic organic matter, and diesel particulate matter/organic gases.

PM concentration at Westlake:

The LDEQ is not required to install a $PM_{2.5}$ monitor in the Lake Charles metropolitan statistical area (MSA). However, the LDEQ has installed a PM2.5 monitor at the Vinton location, which is a Regional Transport monitor. The Design Value (DV) for the Lake Charles MSA is calculated from $PM_{2.5}$ concentrations for the Vinton monitor for 2019 is 7.5 micrograms per cubic meter ($\mu g/m^3$)[3]. The DV for 2020 is not available until late May 2021.

EPA notes that LDEQ operates a second $PM_{2.5}$ monitor in the Lake Charles MSA. This monitor is located in Westlake and is a non-NAAQS comparable monitor, meaning that EPA would not use this monitor to calculate a design value for $PM_{2.5}$ NAAQS purposes. The average annual $PM_{2.5}$ concentration for 2019 at the Westlake monitor is 10.75 $\mu g/m^3$.

[3] NAAQS Annual $PM_{2.5}$ standard is less than or equal to 12.0 $\mu g/m^3$

Reviewed by Frances Verhalen, April 14, 2021